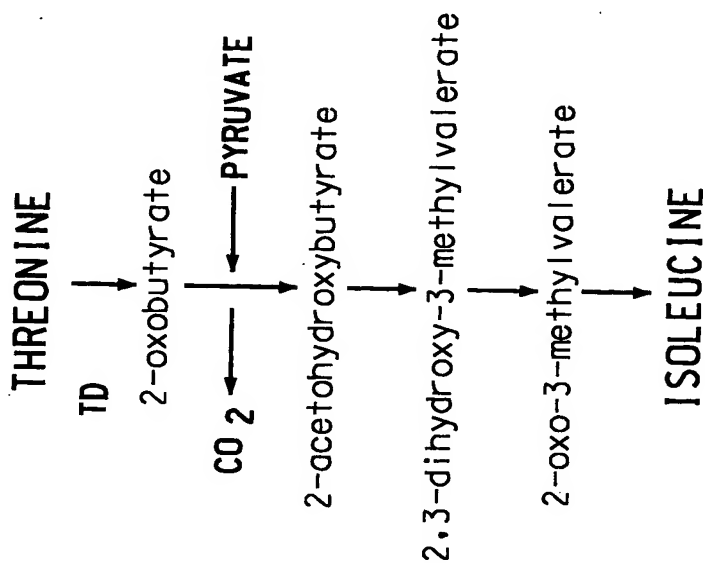


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ALS

AHRI

DHAD

BCAT

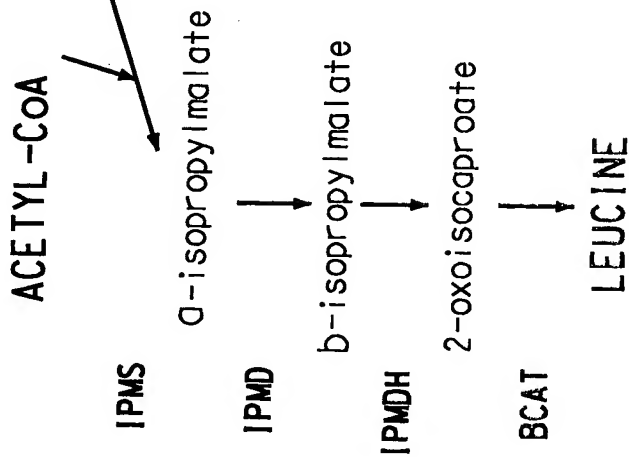
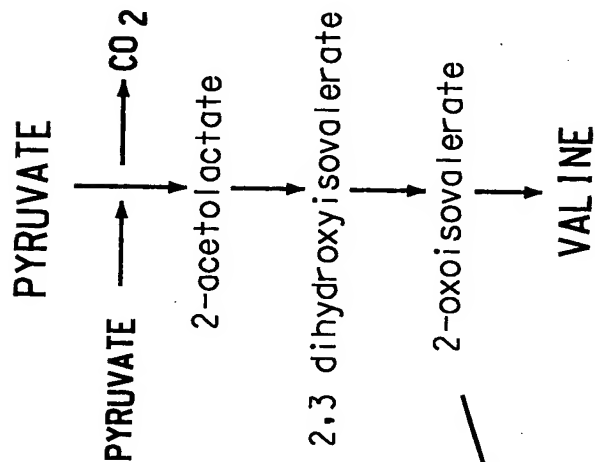


FIG. 1

FOOT" 054200T

SEQ ID NO: 7

M.....GLLTKVATSRQFSTTRCVAK.....

1

SEQ ID NO: 2

MQSM.....ALTSPLPEVGPVSGRRRLQIRAT....

60

SEQ ID NO: 4

MQSTLENPTHSLPTSPHSIRSNSGHSLSVRASIAVETPTETVKLNKYSRRITEPKSQG

61

SEQ ID NO: 6

.....

120

SEQ ID NO: 7

ASQAMLYATGFKKEDEKPKQVGVGSCWWSGNPCNMHLLDLNNRCSQSIEKAGLKAMQFNT

121

SEQ ID NO: 2

ASQAVLYGVGLTDADLRKPKQVGVSSVWYEGNTCNMHLRLRLAEAVRDGVREAGMVGFRENT

180

SEQ ID NO: 4

ASQAVLYGVGLSEDDMAKPKQVGVSSVWYEGNTCNMHLHLSEAVRDGVAAAGMVGFRENT

181

SEQ ID NO: 6

.....

240

FIG. 2A



APPROVED	O.G. FIG.		Ucket No: 88-1126
BY	CLASS	SUBCLASS	Title: Plant Branched Chain Amino Acid Biosynthetic Enzymes
DRAFTSMAN			Saved by: Carl Falco
			App. No.: 09/00
			E.I. DuPont de Nemours

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FOO22T" 0542200T

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*** * ++++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++*****
SEQ ID NO: 7 PIKANGHLQILYGLAPGAVGKITGKEGTYFKGRARVFEEEGAFIEALERGEIKKGEKT
SEQ ID NO: 2 PIKPTGHIQILYGNLAPEGSAKITGKEGLFFSGPALVFEGEESMITAISENPANFKGK.
SEQ ID NO: 4 PIKKTAKHIQILYGNLAPOQSAKITGKEGLYFSGPALVFEGEESMITAISENPANFKGK.
SEQ ID NO: 6 .....APEGSAKITGKEGLFFSGPALVFEGEESMITAISENPANFKGK.
421

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+++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++*****
SEQ ID NO: 7 VVIRYEGPRGAPGMPPEMLKPSALMGYGLGKDVALLTDGRFSGGSHGFLIGHIVPEAAE
SEQ ID NO: 2 VVIRGEGPKGGPGMPPEMLTPTSAIMGAGLGKECALLTDGRFSGGSHGFVVGHCPEAQE
SEQ ID NO: 4 VVIRGEGPKGGPGMPPEMLTPTSAIMGAGLGKECALLTDGRFSGGSHGFVVGHCPEAQE
wk05cl2A.pro VVIRGEGPKGGPGMPPEMLTPTSAIMGAGLGKECALLTDGRFSGGSHGFVVGHCPEAQE
481

```

```

+++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++***** ++++++*****
SEQ ID NO: 7 GGPIGLVRDGDDEIIIDADNNKIDLLVSDKEMAQRKQSWAPPYTRGTLTKYAKLVNSA
SEQ ID NO: 2 GGPIGLVHSGDVITIDVSKRVIDVDLTDQLEERRRKKWTPPYKSTCGALWKYIKLVAPA
SEQ ID NO: 4 GGPIGLIQNGDVINVDIKNRRIDVLVSDEEMEARRRKKWTAPPYKANRGALYKYIKNVTPA
SEQ ID NO: 6 GGPIGLVNGDITITIDVGKKVIDVDLTEDQLEQRRRKWSPPPHKXTNGS.....
541

```

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+ +++++ *
SEQ ID NO: 7 SNGCVLDA
SEQ ID NO: 2 SRGCVTDE
SEQ ID NO: 4 SSGCVTDE
SEQ ID NO: 6 .....TLE
601 608

```

FIG. 2C

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FIG. 3A

SEQ ID NO:20 MTKQTIRVEL.  
 SEQ ID NO:09 MEYGAVLAAPLVARPNWLLSPPL..APSIQIONRLYSISSEPLK.....AGPVRA  
 SEQ ID NO:11 .....  
 SEQ ID NO:13 .....  
 SEQ ID NO:15 .....  
 SEQ ID NO:17 MESIRLIYPICPSRHSSFLLSHQSPFELCEPSLSKLKLR...KQFPLTSQNVLEAASPLRP  
 SEQ ID NO:19 MT...ASINT  
 1  
 60

SEQ ID NO:20 .....TSTKKPKPDNPQLSFGRVFTDHFVMDYAADKGWYDPRRIIPYQPLSMDPT  
 SEQ ID NO:09 CRALASN.YTQTSETVLDWENLGFIVQTDYMYIAKCTDGNFSEGEVMPFGPIALSPS  
 SEQ ID NO:11 .....  
 SEQ ID NO:13 .....  
 SEQ ID NO:15 .....HEGILSR.....YGNIELSPS  
 SEQ ID NO:17 SATLSSDPYSETIELADIEWDNLGFGLQPTDYMIMKCTRGTFESKGELQRFGNIELNPS  
 SEQ ID NO:19 .....GTPDLVDFDWETLGFQLVPTDFMYIMKCSSDGVFTKGELVPYGPIELNPA  
 61  
 120

SEQ ID NO:20 + \*\*\*\*+ + + + +  
 SEQ ID NO:09 AMVYHYGQTVFEGLKAY..VSEDDHVLIFRPEKNMERLNQSNDRLCIPQIDEEQVLEGLK  
 SEQ ID NO:11 SGVLNYGQGLFEGLKAYK..KTDGSILLFRPEENAERMRTGAERM.....  
 SEQ ID NO:13 .....  
 SEQ ID NO:15 SGVINYGQGLFEGLKAYRAANQQGSYMLFRPEENARRMQHGAERMCMPSVEQFVHAVK  
 SEQ ID NO:17 AGVLNYGQGLFEGLKAYR..KQDGSILLFRPEENGLRMQIGAERMCMPSPTMEQFVEAVK  
 SEQ ID NO:19 AAVLNYGQGLLEGLRAHR..KEDGSVVFRPKENALRMRIGADRILCMAPSVEQFELSAVK  
 121  
 180

FIG. 3A

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TABLE 1

SEQ ID NO: 20	Q L V A I D K D W I P N A E G T S L Y I R P F I A T E P F L G V A A S H T Y K L L I L S P V G S Y Y K E G I K P V K
SEQ ID NO: 09	.....
SEQ ID NO: 11	..... S S F F F F F V S P V G N Y F K E G L S P I N
SEQ ID NO: 13	.....
SEQ ID NO: 15	Q T V L A N R W V P P Q G K A L Y I R P L L I G S P I L G L A P A P E Y T F L I Y A A P V G T Y F K E G L A P I N
SEQ ID NO: 17	D T V L A N K R W V P P A G K G S L Y I R P L L M G S G P V L G V A P A P E Y T F L I Y V S P V G N Y F K E G L A P I N
SEQ ID NO: 19	H T I L A N K R W V P P T G K G S L Y I R P L L I G S G A M L G V A P A P E Y T F V V Y V C P V G H Y F K D G L S P I S

181 240

SEQ ID NO: 20	I A V E S E F V R A V K G G T G N A K T A G N Y A S S L K A Q Q V A E E K G F S Q V L W L D G I E K Y I E E V G S M N
SEQ ID NO: 09	.....
SEQ ID NO: 11	L I V E D K F H R A S P G G T G G V K T I G N Y A S V L K A Q K I A K G K G Y S D V L Y L D A V H D K Y L E E V S S C N
SEQ ID NO: 13	.....
SEQ ID NO: 15	L V V E D S I H R A M P G G T G G V K T I T N Y A P V L K A Q M D A K S I G F T D V L Y L D A V H K T Y L E E A S S C N
SEQ ID NO: 17	L I V E N E F H R A T P G G T G A
SEQ ID NO: 19	L L T E E E Y H R A A P G G T G D I K T I G N Y A S V S A Q R R A K E K G H S D V L Y L D P V H K K F V E E V S S C N

241 300

SEQ ID NO: 20	I F F K I N G E I V T P M L N G S I L E G I T R N S V I A L L K H W G L Q V S E R K I A I D E V I Q A H K D G I L E E A
SEQ ID NO: 09	.....
SEQ ID NO: 11	I F V V K D N V I S T P A I K G T I L P G I T R K S I I E V A Q S K G F K V E E R L Y C V D E L I N A
SEQ ID NO: 13	.. V V K G G V A T P D T R G T I L P G I T R K S V I E L A R D R G Y K V E E R L Y S I D D L Y A A

FIG. 3B

# BOOKS IN THE FIELD

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+*+*+*+*+*+*+
FCTGTAAVISPVGELIWQDETLSINNGETGEIAKKLYDTITGIQKGADE.FGWTTEVA
.....
FCTGTAVVSPVGSVTYMGKRVEYGNQGVVSQQLYKSLTSLQMGNV.EDWMGWTMQLN
FCTGTAVVAPSVTVTYQGERYEF.RTGPDTVSQLYTTLTLSIQMGMAAEDSXGWTVPVE
FCTGTAVVAPVSSVTYHGORYEF.RTGHDTLSQLTHTLTLSIQMGLA.EDKKGWTV...
.....
FCTGTAVVLSPVGSIYVYHGRRVEYGGKVGAVSQQLYSALTAIQKGLV.EDSMGWSVQLN

```

SEQ ID NO:20	ALTESK
SEQ ID NO:09	.....
SEQ ID NO:11	..Q...
SEQ ID NO:13	XIN..K
SEQ ID NO:15	AID...
SEQ ID NO:17	.....R
SEQ ID NO:19	.....
	421 426

**FIG. 3C**

SEQ ID NO: 29	LLGEDGIRAITVSVRRRLPVDV.LNPAVKSLNYLSVLAKIQANYAGVDEAFLLDDKGFTVV
SEQ ID NO: 22	SQCRH...GVRAVTTSVPMPKPPLEATMKNVNYPNVLSIMDAEDRGAFASVWVDGEGNVA
SEQ ID NO: 24	PSSPN.FRGVKVTTSSIIPIKHPKFAITKSNVYLPNVLSKVEAEAGAFVGIWL DGE GFVA
SEQ ID NO: 26	SQCKE...GVKVITSNI PMKP S L FATA K N V N Y L P N V L S V M E A E E K G A S S I W D E E G Y I A
SEQ ID NO: 28	LQVPS...CCRVV T S S I P I K S P Q F A V M K S V N Y L P N A L T K V E G E E N G A F T G I W L D D E G F V A

121  
180

FIG. 4A



FIG. 4B

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SEQ ID NO: 29 EGTGDN I. FIVKNGVLKTPPVYQSIKGITRDVVIKLAKEEGIEVVEEPLTLHDLYT...  
SEQ ID NO: 22 EGPMNVNVAFTAAAGELVLP A. FDKILAGCTAKRLLALAPRLVESGLLKAVTTRHIAADEA  
SEQ ID NO: 24 EGPNNMNVAFVTKDKELIMPH. FDKILSGCTAKRVLTLAESLLREGKLGIRVKTVTVEEG  
SEQ ID NO: 26 EGPNNMNVAFITQDKELVMP. FDNILHGCTAKRLLLELAPKLVDQGLLKGVAATKKLTVEEA  
SEQ ID NO: 28 EGSNNMNVGFVTKNKELLMPR. FDKILSGCTARRVLTAEHLVAHGKLSRVISRNVSVEEG  
181 240

SEQ ID NO: 29 ...ADELFITGTAAEIVPVFEIDGRVINNKQVGEITKKLKEKFKDIR.....TKWGIKIV  
SEQ ID NO: 22 KRCSAEMAFVGSGLPVLPIVEWDDQLIGDKVGTMMALSDLLWEDMKSGP..DRIAPV  
SEQ ID NO: 24 KQ.ADEMMLLGSGLVCPVVQWDEQVIGDGKEGPIQTALLNLIVEDMKSGPSTVRIPV  
SEQ ID NO: 26 KA.AAEMMYVGSTLPLPIIIVWDDQPIGNRGRVGEITMLLSDMLWDDMVAGPGTQRI  
SEQ ID NO: 28 KM.ADEMMLIGSGILVKPVVQWDDKIIGSGQEGPIAQA.....  
241 300

SEQ ID NO: 29 .DE  
SEQ ID NO: 22 .K.  
SEQ ID NO: 24 ...  
SEQ ID NO: 26 VE.  
SEQ ID NO: 28 ...  
301 303

FIG. 4B



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FIG. 5B

```

*****
SEQ ID NO: 34 KLAKELGIEVREQVLSRESLYLADEVFMSGTAAEITPVRSDGIVGEGRCGPVTKRIQQ
SEQ ID NO: 31 DLVVKENFVLHERRISLSEFHADEVWTTGTMGGEITPVVMIDGREIGDGKIGPVTRQIQK
SEQ ID NO: 33 DLVVKENLVLHERRISLSEFHADEVWTTGTMGGEITPVVMIDGREIGDGKIGLVTRQIQS
                241
*****

*****
SEQ ID NO: 34 AFFGLFTGETEDKKGWLDQVNO
SEQ ID NO: 31 AYKILTAGQGVPIG..VAEV.
SEQ ID NO: 33 AYKVLTAGLGVTIPR..NAEA.
                301
*****
  
```

FIG. 5B

```

+ + + + + * * * * * + + + + + * * * * * + + + + +
SEQ ID NO: 45   MGMTIVEKILAKASGKKEVSPGDIVMANIDVAMVHDITGLTVNTLK.EYIE.KVWNPE
SEQ ID NO: 36   .....AREPGENVVVDIDLMLTHDVC GPGTIGIFKKFEGEDAKVWDRE
SEQ ID NO: 38   .MTMT..EKILARASERAALEPGENVVVDVLMLTHDVC GPGA DIFKKFEGEDARVWDRE
SEQ ID NO: 40   .....
SEQ ID NO: 42   .....
SEQ ID NO: 44   .....
1

```

SEQ ID NO: 45	KIVILFDHQVPADSIKAAENHILMRKEQGIKYFYDIRE.....GVCHQVLP
SEQ ID NO: 36	KVVIIPDHYIFTSDERANRNVDIRDFECLEQNIKYFYDIKDLSDFRANPDYKGVCCHIALA
SEQ ID NO: 38	KLVIIPDHYIFTSDGRAKRNVDILRDFCAEQNIKYFYDIKDLSDFRANPDYKGVCCHIALA
SEQ ID NO: 40	.....VCHVALA
SEQ ID NO: 42	.....
SEQ ID NO: 44	.....

61  
12

[illegible]

FIG. 6A

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FOO22T"0542200T

SEQ ID NO: 45 LQPVVTSKDVILSIIGEVGVGDGATYKACQFGGETVKKMSIASRMTMTNMAIEMGGKTGII  
SEQ ID NO: 36 MPPYLLAKDLILQIIGEISVSGATYKSMFVGVSTVESLTMEERMTLCNMVVEAGGKNGVV  
SEQ ID NO: 38 MPPYLLAKDLILQIIGEISVSGATYKSMFVGVSTVESLTMEERMTLCNMVIEAGGKNGVV  
SEQ ID NO: 40 MPPYLLAKDLILQIIGEISVSGATYKSMFVGVSTVESLTMEERMTLCNMVIEAGGKNGVV  
SEQ ID NO: 42 .....  
SEQ ID NO: 44 ..... 240

181

SEQ ID NO: 45 EPDEKTIQYVKEAMKKHGTERTPEFVIKGDDEDAEFAEVEYIEADKIEPVFACPHNVNDNVKQ  
SEQ ID NO: 36 PADETTFKYLEGR....TSVDYQPVYSDAEAREFFSDYRFDVSKLEPVVAKPHSPDNRAL  
SEQ ID NO: 38 PADETTFKYLEGK....TSVDYEPVYSDAQARFFSDYRFDVSKLEPVVAKPHSPDNRAP  
SEQ ID NO: 40 .....  
SEQ ID NO: 42 .....LEGG.....  
SEQ ID NO: 44 ..... 300

241

SEQ ID NO: 45 AREVAGKPIDQVFIGSCTNGRLEDLRMAIKIEKHGGIADDDVRVVVTPASREELYLKALKE  
SEQ ID NO: 36 ARECKDVKIDRVYIGSCTGGKTEDEFLAAAKVFLA.SGKKVKVPTFLVPATQKVWMDVYSL  
SEQ ID NO: 38 ARECKDVKIDRVYIGSCTGGKTEDEFLAAAKVFLA.SGKKVKVPTFLVPATQKVWLDIYSL  
SEQ ID NO: 40 .....  
SEQ ID NO: 42 ARECKDVKIDRVYIGSCTGGKTEDEFLAAAKVFLA.SGKKVKVPTFLVXATQKVWMDIYSL  
SEQ ID NO: 44 .....FIAAAKVFLA.SGKKVKVPTFLVPATQKVWMDVYSL 360

301

FIG. 6B

APPROVED	O.G. FIG. Title:	SECRET NO.
BY	CLASS	Inventor
DRAFTSMAN		Appl. No.
		E.I. DuPont

Plant Branched Chain Amino Acid Biosynthetic Enzymes  
 Saved Carl Falco  
 09/7/70  
 de

14/16

TOO22T" 0542200T

SEQ ID NO:45 \*\*\*\*\* ++++++ ++++++ \*\*\*\*\* ++++++ ++++++ ++++++  
 GI.....IEKFLKYGC-VVTNPSCSACMG...LYGVLG?GEVVCVSTSNRNERGRQG  
 SEQ ID NO:36 PVPGGGKTCQAIFEEAGCDTPASPCGACLGPRDTYARMNEPTVCVSTTNRNFPGRMG  
 SEQ ID NO:38 PVPGGGKTCQAIFEEAGCDTPASPCGACLGPRDTYARMNEPTVCVSTTNRNFPGRMG

SEQ ID NO:40 ..... PVPGGGKTCQAIFEEVGCPTASPCGACLGPRDTYARMNEPTVCVSTTNRNFPGRMG  
 SEQ ID NO:42 ..... PVPGGGKTCQAIFEEAGCDTPASPCGACLGPRDTYARMNEPTVCVSTTNRNFPGRMG  
 SEQ ID NO:44 ..... PVPGGGKTCQAIFEEAGCDTPASPCGACLGPRDTYARMNEPTVCVSTTNRNFPGRMG  
 361 420

\*\*\*\*\* ++++++ ++++++ ++++++ ++++++ +  
 SLEAEIYLASPIATAACAVKGELVDPDL...  
 SEQ ID NO:45 HKEGQIYLASPYTAAASALTGYVTDPRDFLM  
 SEQ ID NO:36 HKEGQIYLASPYTAAASALTGYVTDPRDFLM  
 SEQ ID NO:38 HKEGQIYLASPYTAAASALTGYVTDPRDFLM  
 SEQ ID NO:40 .....  
 SEQ ID NO:42 HKEGQIYLASPYTAAASALTGYVTDPRDFL.  
 SEQ ID NO:44 HKEGQIYLASPYTAAASALTGYVTDPRDFLS  
 421 452

FIG. 6C

SSEQ	ID NO: 54	NLFYEWRYLKDYDENPDFILNAPKYKKASLLISGDNFGSSREHAAWALSDYGFRAlIA
SSEQ	ID NO: 47	LGSFAFAGLPSAAYPTPFVAPGEESSRYAIIVGGANFGCGSSREHAPVALGAAGAARAIVA
SSEQ	ID NO: 49	LGSFAFVGLPTAAYPTPFVAPGEETTRYAVIIGGANFGCGSSREHAPVALGAAGAARAVVA
SSEQ	ID NO: 51	LGSYALIGLP .ATYATRFIEPGEIKTKYAIVIGGANFGCGSSREHAPVALGASGAAA VVA
SSEQ	ID NO: 53	LGSFAFAGLPSAAYPTPFVAPGEESSRYAIIVGGANFGCGSSREHAPVALGAAGAARAIVA
	121	180

FIG. 7A

